



# NATIONAL PARK SERVICE

## Environmental Audit Program

### EnviroCheck Sheet

*Solid Waste Management*  
*June 2002 Update*

## SOLID WASTE MANAGEMENT

Waste generated by visitors, employees, and concessionaires, comprise the solid waste generated at National Park Service (NPS) facilities. This varied waste composition includes, but is not limited to, food waste, plastics, glass, packaging and paper. In addition, because each NPS facility is unique in terms of size and amenities, the composition and quantity of waste across the NPS varies by facility. This variety of solid waste presents a challenge to the NPS in determining an effective management strategy.

NPS facilities that operate solid waste management facilities such as landfills and incinerators have the additional challenge of ensuring that these systems are managed in accordance with applicable regulations and in keeping with the charter of the NPS.

### Auditor's Guidelines:

#### Records to Review

- SOPs for non-hazardous waste management practices
- Waste generation records
- State and federal inspection reports
- Pollution prevention management plan
- ISWAP

#### Features to Observe

- Incineration and land disposal sites (active and inactive)
- Construction debris areas
- Waste receptacles
- Solid waste vehicle storage and washing areas
- Compost facilities
- Transfer stations
- Recycling centers

#### Persons to Contact

- Superintendent
- Maintenance staff

### DEFINITIONS

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*Household waste:* Under the Criteria For Municipal Solid Waste Landfills (40 CFR 258.2), household waste is any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use-recreation areas).

*Solid waste:* Garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, and other discarded materials, including solid, liquid, semi-solid, or contained gaseous material, resulting from industrial and commercial operations and from community activities. It does not include solids or dissolved materials in domestic sewage or other significant pollutants in water resources.

*Municipal Solid Waste Landfill (MSWLF):* An entire disposal facility in a contiguous geographical space, where household waste is placed in or on land. An MSWLF may also receive other types of RCRA Subtitle D wastes (40 CFR 257.2) such as commercial solid waste, non-hazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste.

*State director:* Chief administrative officer of the lead state agency responsible for implementing the state permit program for 40 CFR 257, subpart B and 40 CFR 258 regulated facilities.

*Solid waste disposal site:* Land where solid waste is deliberately discarded and enters the environment by discharging, depositing, injecting, dumping, spilling, or leaking. Transfer stations and incinerators are included.

*Composting:* The biological decomposition of organic wastes by a variety of organisms under controlled conditions where oxygen is available.

*Source reduction/Waste prevention:* Any change in the design, manufacturing, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they are discarded. Waste prevention also refers to the reuse of products or materials.

*Waste reduction:* Decreasing the amount of waste being generated through waste prevention, recycling, or purchasing recycled and environmentally preferable products.

*Vector:* A carrier, usually an arthropod, that is capable of transmitting a pathogen from one organism to another.

## LEGAL REQUIREMENTS

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### Federal

#### *36 CFR Part 6 – Solid Waste Sites in Units of the National Park System*

Regulations governing the establishment and operation of solid waste disposal sites within the NPS are codified at 36 CFR 6. These regulations set forth stringent criteria under which new landfills can be created and define the operating conditions and NPS permitting requirements of existing landfills. Parks that operate landfills must document their compliance with this regulation in their Integrated Solid Waste Alternative Program (ISWAP). 36 CFR 6.8(d) stipulates that concessioners, commercial use authorizations, and contractors will comply with acquisition, recycling and waste minimization goals established by the NPS.

*Executive Order 13101 - Greening the Government through Waste Prevention, Recycling and Federal Acquisition*  
Issued on September 14, 1998, Executive Order 13101, requires federal agencies to integrate pollution prevention, recycling and procurement into their operations. Recycling issues are addressed in this check sheet. Information regarding the procurement of recycled-content products is discussed in the Green Procurement Check Sheet.

#### *Resource Conservation and Recovery Act (RCRA) and Clean Water Act (CWA)*

RCRA is the federal law governing the disposal of solid waste. Subtitle D of this act, establishes federal standards and requirements for state and regional authorities respecting solid waste disposal. The objectives of this subtitle are to assist in developing and encouraging methods for the disposal of solid waste which are environmentally sound and which maximize the utilization of valuable resources recoverable from solid waste. The objectives are to be through federal technical and financial assistance to states and regional authorities for comprehensive planning.

Relevant regulations under RCRA and the CWA include:

- *The Criteria For Municipal Solid Waste Landfills (40 CFR 258.2)*, under both RCRA and the CWA, codified at 40 CFR 258, minimum national criteria were established for all municipal solid waste landfill (MSWLF) units and for municipal solid waste landfills that are used to dispose of sewage sludge. Definitions of “household waste,” “solid waste” and “municipal solid waste landfill” are taken from these regulations.

- *Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste (40 CFR 243)* These guidelines apply to the collection of residential, commercial, and institutional solid wastes and street wastes. Explicitly excluded are mining, agricultural, and industrial solid wastes; hazardous wastes; sludges; construction and demolition wastes; and infectious wastes.

### National Park Service Policy

*Director's Order #30A: Management Of Hazardous Materials, Solid And Hazardous Waste And Environmental Contamination (in draft as of the date of this check sheet)*

NPS Policy requires that all facilities undergo a comprehensive study of their existing solid waste management programs to identify alternative management scenarios that when implemented will divert solid waste from landfills to recycling centers. This study, depending upon the composition and quantity of specific materials in the waste stream and the available opportunities for waste diversion, may need to be written up as a full-fledged Integrated Solid Waste Alternatives Program (ISWAP) Plan.

It is NPS policy that all parks strive to meet the target goals of the Department of the Interior (DOI) Strategic Plan for Greening the Department of the Interior. These goals include the following:

- Diverting solid waste from disposal in landfills by recycling at the rate of 40% by the year 2000, 45% by the year 2005, and 50% by the year 2010. Individual facilities at parks must also adhere to local and state requirements that have higher recycling standards.
- Recycling the following commodities unless significant barriers exist: white paper, mixed paper/newspaper, cardboard, aluminum, plastic (#1 PET, #2 HDPE), glass, pallets, scarp metal, toner cartridges, and consistent with applicable hazardous waste regulations, fluorescent lamps, lamp ballasts, batteries, used oil, antifreeze and tires.

### *Integrated Solid Waste Alternative Program (ISWAP)*

The ISWAP was developed by the NPS to address source reduction, recycling, use of recycled products and educational initiatives. The scale and scope of the ISWAP should be appropriate to the park size and complexity.

### *Special Directives*

Special Directive 91-1 addresses the *Implementation of the Integrated Solid Waste Alternative Program (ISWAP)*.

### State and Local

Many state and local jurisdictions have their own, oftentimes more stringent, requirements for recycling and/or waste reduction. It is important that NPS facilities check the requirements of the state and/or local jurisdictions. Also note that some solid waste disposal operations may have their own unique restrictions.

## COMPLIANCE REQUIREMENTS

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It is NPS policy (DO #30A) that parks maintain records on the amount by weight of rubbish and trash generated on an annual basis as well as the amount of various materials (aluminum, glass, paper, plastic) that are recycled. To meet this requirement, a solid waste inventory should be completed by NPS facility staff to get a clear picture of waste streams (both the type and amount of waste generated). Waste streams will vary from park to park based on such factors as: amenities at the park (e.g., hotel vs. campgrounds vs. no overnight facilities); visitation rates and times (e.g., seasonal fluctuations); and employees (e.g., office facilities only vs. office and residential facilities). To evaluate impacts, costs, and appropriate approaches to developing a solid waste management strategy, it is important to know the *source* of the solid waste (e.g., visitors vs. employees vs. concessioners).

Having completed a waste survey, the NPS facility is now positioned to evaluate and implement strategies to manage the waste. The strategy hierarchy is:

- Prevent
- Reduce
- Reuse
- Recycle
- Dispose

#### *Waste Prevention*

Waste prevention, also known as source reduction, means using less material to get a job done. Waste prevention methods help create less waste in the first place—before recycling. If organizations take a good look at their recycling collection data, they are likely to see ways to reduce waste first through waste prevention, thereby decreasing purchasing costs and the amount of material that must be managed for recycling or disposal. Following are examples of ways to eliminate waste **before** it is generated:

- Instead of finding a way to reuse or recycle excess building supplies, perform a more accurate initial assessment of product needs.
- If product packaging represents a park waste stream, look for products with minimal packaging
- Educate park staff on means of eliminating the volume of junk mail received at park residences.

#### *Waste Reduction, Reuse and Recycling*

The three “Rs” approach to solid waste management assist the park in addressing solid waste that cannot be prevented. Examples of these techniques are:

- Using double-sided photocopying;
- Encouraging visitors to bring food in reusable containers and pack out all waste;
- Considering waste reduction proposals when evaluating concession contracts;
- Requiring the use of refillable condiment and toiletry dispensers if there are no health restrictions;
- Encouraging hotels to donate used furniture, linens, etc., to charitable organizations;
- Recycling all potentially recyclable material used at the park;
- Composting food waste, leaves, grass, manure, and other organic material for reuse as a soil amendment;
- Reusing corrugated boxes;
- Donating unwanted supplies to local schools or charities; and
- Chipping wood for use on trails and in picnic areas.

#### *Disposal*

Even with a highly developed and successful solid waste management program, NPS facilities will still require some disposal options. These options include landfilling and incineration and should take into account accessibility, cost, capacity, regulatory requirements, impact on the local community, and public relations issues.

The NPS currently has three operating landfills and two incinerators and therefore relies largely on external disposal sites. With the exception of those operating as of September 1984, *36 CFR Part 6 – Solid Waste Sites in Units of the National Park System* prohibits operating solid waste disposal sites within parks without authorization from the NPS Regional Director. This regulation also restricts the creation of new solid waste sites within parks that are not collecting NPS-generated wastes.

When evaluating landfilling versus incineration options, NPS facility staff should consider incineration at Waste-to-Energy facilities. These facilities usually sell the energy produced to the local electric utility, thus beneficially using the energy content of the waste. Use of these options will vary depending on the cost, availability, and the compatibility of the waste stream with the disposal option.

### *Storage and Collection Requirements*

Regulations found in 40 CFR 243 provide “Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste.” Those regulations provide specific solid waste and solid waste container management requirements summarized below:

- All solid wastes (or materials separated for recycling) must be stored in such a manner that they do not constitute a fire, health, or safety hazard or provide food or harborage for vectors, and must be contained or bundled so as not to result in spillage.
- All solid waste containing food wastes must be securely stored in covered or closed containers which are nonabsorbent, leak proof, durable, easily cleanable (if reusable), and designed for safe handling.
- Containers must be of an adequate size and in sufficient numbers to contain all food wastes, rubbish, and ashes that a residence or other establishment generates in the period of time between collections.
- Containers must be maintained in a clean condition so that they do not constitute a nuisance, and to retard the harborage, feeding, and breeding of vectors. When serviced, storage containers should be emptied completely of all solid waste.
- Storage of bulky wastes must include, but is not limited to, removing all doors from large household appliances and covering the item(s) to reduce the problems of an attractive nuisance, and the accumulation of solid waste and water in and around the bulky items.
- All vehicles used for the collection and transportation of solid waste (or materials separated for recycling) shall be enclosed or have a suitable cover, so that while in transit there can be no spillage.
- Solid wastes (or materials separated for recycling) shall be collected with frequency sufficient to inhibit the propagation or attraction of vectors and the creation of nuisances. Solid wastes, which contain food wastes, shall be collected at a minimum of once during each week. Bulky wastes shall be collected at a minimum of once every 3 months.

### **FOR MORE INFORMATION**

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- 36 CFR 6 - Solid Waste Sites in Units of the National Park Service.
- EO 13101 Green the Government through Waste Prevention, Recycling and Acquisition, <<http://www.ofee.gov>>.
- NPS “Integrated Solid Waste Alternative Program (ISWAP) Guidance Handbook.”
- NPS “Strategic Plan for Greening the DOI Through Waste Prevention, Recycling, & Federal Acquisition.”
- NPS Special Directive 91-1, addressing ISWAP.
- Mail Preference Service, Direct Marketing Association, P.O. Box 9008, Farmington, NY 11735 – removal from junk mailing lists.

### *Resources on composting:*

- Cornell University <<http://www.cfe.cornell.edu/compost/Composting.homepage.html>>.
- U.S. Composting Council <<http://compostingcouncil.org/index.cfm>>.
- EPA, Office of Solid Waste Management, composting information <<http://www.epa.gov/epaoswer/non-hw/compost>>.



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CHECKLIST ITEM	PRIORITY	NOTES
<b>ISWAP Requirements</b>		
1. Park staff have completed a comprehensive study of their solid waste management programs to identify alternative management scenarios to divert solid waste from landfills to recycling centers. [DO #30A]	2	
2. Depending upon the composition and quantity of specific materials in the park's waste stream and the available opportunities for waste diversion (identified as a result of the solid waste study referenced in Question 1), an ISWAP was developed that promotes waste reduction and management, and recycling for park staff and visitors that includes the following elements: <ul style="list-style-type: none"> <li>• Description of the solid waste program;</li> <li>• Tonnage or volume information on trash and recyclables;</li> <li>• Breakdown of costs associated with each element of the solid waste program;</li> <li>• Potential influences on the program (changes in visitation, regulatory changes);</li> <li>• Description of state and local waste prevention and recycling requirements;</li> <li>• Performance goal exceedances established by PFMD/WASO;</li> <li>• Description and evaluation of alternative program options;</li> <li>• Description of resources required to help the park implement its recommendations and achieve its programmatic goals; and</li> <li>• An implementation schedule and a description of which individuals or units in the park are responsible for different elements of the plan.</li> </ul> [Special Directive 91-1]	2	
<b>Waste Disposal Sites</b>		
<i>Questions 3-9 deal with solid waste disposal sites operating on park property that accept only park waste.</i>		
3. Solid waste disposal sites are not in, or placed in, operation after Sept. 1, 1984, without meeting regulatory requirements and demonstrating such to the NPS Regional Director. [36 CFR 6.4(a)]	2	
4. If continuing to operate a solid waste disposal site, placed in operation <i>before</i> Sept. 1, 1984 and in continuous use since Jan. 23, 1995, the proper permit request and environmental report was submitted to the proper authority. [36 CFR 6.5(a)]	2	
5. The solid waste disposal site is not used for the storage, handling or disposal of: <ul style="list-style-type: none"> <li>• Hazardous wastes (including Universal Wastes);</li> <li>• Incinerator ash;</li> <li>• Lead-acid batteries;</li> <li>• PCBs;</li> <li>• Pesticides;</li> <li>• Sludge from a waste treatment plant, septic system waste of domestic sewage;</li> <li>• Petroleum, including used crankcase oil from a motor vehicle or soil contaminated by such products;</li> <li>• Non-sterilized medical wastes;</li> <li>• Radioactive materials; or</li> <li>• Tires.</li> </ul> [For sites in operation prior to September 1, 1984: 36 CFR 6.5(c)(3); for sites in operation after September 1, 1984: 36 CFR 6.4(a)(6)]	2	

This document does not necessarily contain all information needed to determine compliance status.

CHECKLIST ITEM	PRIORITY	NOTES
6. If solid waste disposal facilities were converted to a transfer station after January 23, 1995, it received the proper approval from the NPS Regional Director. [36 CFR 6.5(f)]	2	
7. No solid waste disposal facility is in operation unless the proposed closure and post-closure care is sufficient to protect the resources of the park from degradation. [For sites in operation prior to September 1, 1984: 36 CFR 6.5(c)(4); for sites in operation after September 1, 1984: 36 CFR 6.4(a)(12)]	2	
8. If a solid waste disposal facility operates on-site at the park, there is a program in place to ensure that only solid wastes generated within the NPS are disposed of at that site (i.e., no waste is accepted from a generator outside the park). [36 CFR 6.8(a)]	2	
9. Conflict between a requirement of a permit issued by the NPS and a requirement of state or local law is resolved by following the stricter of the two requirements. [36 CFR 6.9(f)]	2	
<b>Recycling/Composting</b>		
10. Recycling containers have been located in sufficient quantity to support the park's recycling program. Containers are properly labeled and easily identifiable by park staff and visitors. [BMP]	3	
11. Opportunities to compost organic materials (e.g., grass clippings, wood waste, and food waste) have been implemented where practical. [BMP]	3	
12. The park can demonstrate that it strives to meet the target goals of the Department of the Interior (DOI) Strategic Plan for Greening the DOI, including diverting solid waste from disposal in landfills by recycling at the rate of 40% by the year 2000, 45% by the year 2005, and 50% by the year 2010 (individual parks may be required to adhere to local and state requirements that have higher recycling standards). [DO #30A]	2	
13. There is a program in place to recycle, reuse, or refurbish: <ul style="list-style-type: none"> <li>• Toner cartridges;</li> <li>• Batteries (see Universal Waste check sheet);</li> <li>• Scrap metal;</li> <li>• Fluorescent lamps (see Universal Waste check sheet);</li> <li>• Paper (white paper, mixed paper, newspaper);</li> <li>• Cardboard;</li> <li>• Aluminum;</li> <li>• Wood pallets</li> <li>• Plastic; and</li> <li>• Glass bottles.</li> </ul> [EO 13101 Sec. 601(a)(2)]	2	
<b>Waste Management</b>		
14. All solids wastes (including materials separated for recycling) are stored so they do not constitute a fire, health or safety hazard or provide food or harborage for vectors, and are contained or bundled so there is no spillage or fly-aways. [40 CFR 243.200-1(a)]	2	
15. Food wastes are securely stored in covered or closed containers that are nonabsorbent, leakproof, durable, easily cleanable and designed for safe handling. [40 CFR 243.200-1(a)]	2	
16. Containers are maintained in a clean condition so that they are not a nuisance, and retard harborage, feeding, and breeding of vectors. [40 CFR 243.200-1(a)]	2	

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CHECKLIST ITEM	PRIORITY	NOTES
17. Storage of bulky waste includes removing all doors from large appliances and covering the items to reduce the attraction of vectors, creating a nuisance, and accumulation of solid waste and water in and around the bulky items. [40 CFR 243.200-1(b)]	2	
18. All vehicles used for collection and transportation of solid waste are enclosed or adequate provisions are made for suitable cover, so while in transit, there is no spillage or fly-away (e.g., tied down and covered with a tarp, if a pick-up truck is used). [40 CFR 243.202-1(b)]	2	
19. Solid waste is collected in a timely manner to inhibit the attraction of vectors and creation of nuisances. <ul style="list-style-type: none"> <li>• Solid wastes which contain food wastes are collected <i>at a minimum</i> of once during each week;</li> <li>• Bulky wastes are collected <i>at a minimum</i> of once every 3 months</li> </ul> [40 CFR 243.203-1]	2	